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			U.S. P	ATENT DOCUMENTS	
		U.S. Patent 1	Document		Date of Publication of Cited
Examiner Initials*	Cite No.1	Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Document MM-DD-YYYY
XW		6,243,078		Rosenberg	06/2001
		6,219,032		Rosenberg et al.	04/17/2001
		6,166,723		Schena et al.	12/26/2000
		6,128,006		Rosenberg	10/03/2000
		6,100,874		Schena et al.	08/08/2000
<u> </u>		6,088,019		Rosenberg	06/11/2000
		6,088,017		Tremblay et al.	06/11/2000
		6,078,308		Rosenberg et al.	06/20/2000
		6,037,927		Rosenberg	03/14/2000
		6,028,593		Rosenberg et al.	02/22/2000
		6,024,576		Bevirt	02/15/2000
		6,020,876	_	Rosenberg et al.	02/01/2000
		6,004,134		Marcus et al.	12/21/1999
		6,001,014		Ogata et al.	12/14/1999
		5,990,869		Kubica et al.	11/23/1999
		5,987,437		Nishiumi et al.	04/27/1999
		5,986,643		Harvill et al.	11/16/1999
		5,973,689		Gallery	10/26/1999
		5,959,613		Rosenberg et al.	09/28/1999
		5,956,484		Rosenberg et al.	09/21/1999
		5,956,016		Kruenzner et al.	09/21/1999
		5,944,151		Jakobs et al.	08/31/1999
		5,929,846		Rosenberg et al.	07/27/1999
		5,914,705		Johnson et al.	06/22/1999
		5,912,661		Siddiqui	06/15/1999
		5,889,670		Schuler et al.	03/30/1999
		5,880,714		Rosenberg et al.	03/09/1999
		5,844,392		Peurach et al.	12/01/1998
		5,831,408		Jacobus et al.	11/03/1998
		5,825,308		Rosenberg	10/20/1998
		5,821,921		Osborn et al.	10/13/1998
		5,808,603		Chen	09/15/1998
		5,805,140		Rosenberg et al.	09/08/1998
		5,802,353		Avila et al.	09/01/1998
		5,790,108		Salcudean et al.	08/04/1998
		5,785,630		Bobick et al.	07/28/1998
	l i	5,784,052		Keyson	07/21/1998
		5,781,172		Engel et al.	07/14/1998
1/		5,771,037		Jackson	06/23/1998
$\overline{\mathbf{v}}$		5,769,640		Jacobus et al.	06/23/1998

Unique citation designation number.
 See attached Kinds of U.S. Patent Documents.

Examiner Signature /Xiao Wu/	Date Considered	06/25/2006
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^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Sheet	2	of	9	Attorney Docket Number	IMMR-046/02US	

AW 3,767,839 Rosenberg 061(61998				
\$.755,577 Gillio 0.0326/1998 \$.5755,016 Sinclair et al. 0.06/16/1998 \$.5755,016 Sinclair et al. 0.06/16/1998 \$.5754,023 Reston et al. 0.05/19/1998 \$.5740,223 Reston et al. 0.05/19/1998 \$.5740,2278 Chen et al. 0.0428/1998 \$.5.742,278 Chen et al. 0.0428/1998 \$.5.79,811 Rescenberg et al. 0.0428/1998 \$.5.716,978 Rescenberg et al. 0.0428/1998 \$.5.716,978 Rescenberg et al. 0.0428/1998 \$.5.714,473 Rescenberg et al. 0.0428/1998 \$.5.713,1804 Rescenberg et al. 0.0248/1998 \$.5.713,1804 Rescenberg et al. 0.0248/1998 \$.5.713,1804 Rescenberg et al. 0.0248/1998 \$.5.714,173 Rescenberg et al. 0.0248/1998 \$.5.712,106 Autry et al. 0.0248/1998 \$.5.724,106 Autry et al. 0.0248/1998 \$.5.724,106 Rescenberg et al. 0.0248/1998 \$.5.724,106 Rescenberg et al. 0.0248/1998 \$.5.714,978 Yunnaraka et al. 0.0248/1998 \$.5.714,978 Yunnaraka et al. 0.0268/1998 \$.5.714,978 Yunnaraka et al. 0.0268/1998 \$.5.99,219 Chen et al. 0.1026/1998 \$.5.99,133 Stewart et al. 0.1026/1998 \$.5.99,139 Rescenberg et al. 0.1026/1997 \$.5.99,137 Amazina de al. 0.1026/1997 \$.5.99,137 Rescenberg et al. 0.1026/1997 \$.5.99,137 Rescenberg et al. 0.1026/1997 \$.5.99,137 Rescenberg et al. 0.1026/1997 \$.5.90,137 Rescenberg et al. 0.1026/1997 \$.5.90,137 Rescenberg et al. 0.1026/1997 \$.5.90,137 Rescenberg et al. 0.1026/1997 \$.5.90,138 Rescenberg et al. 0.1026/1997 \$.5.90,139 Rescenberg et al. 0.1026/1997 \$.5.90,139 Rescenberg et al. 0.1026/1997 \$.5.90,139 Rescent et al. 0.1026/1997 \$.5.90,139 Rescenberg et al. 0.1026/1	XW	5,767,839	Rosenberg	06/16/1998
\$ 5,755,016 Sinclair et al. 06/16/1998 5,754,023 Reston et al. 05/19/1998 5,745,715 Pickover et al. 04/28/1998 5,739,811 Reston et al. 04/16/1998 5,739,811 Reston et al. 04/16/1998 5,734,773 Reston et al. 04/27/1998 5,734,773 Reston et al. 04/27/1998 5,734,773 Reston et al. 04/27/1998 5,724,728 Chen et al. 04/27/1998 5,724,728 Chen et al. 04/27/1998 5,724,726 Reston et al. 04/27/1998 5,724,726 Reston et al. 04/27/1998 5,724,728 Yes al. 05/27/1998 5,840,133 Sicourt et al. 05/27/1998 5,840,133 Sicourt et al. 11/27/1997 5,641,837 Amano 11/27/1997 5,666,133 Culver 05/09/1997 5,666,133 Culver 05/09/1997 5,666,133 Culver 05/09/1997 5,643,087 Marcus et al. 05/27/1997 5,643,087 Marcus et al. 05/17/1997 5,595,347 Robertson et al. 01/27/1997 5,595,347 Robertson et al. 01/27/1997 5,598,347 Robertson et al. 01/27/1996 5,598,347 Robertson et al. 01/27/1997 5,598,347 Robertson et al. 01/27/1996 5,598,347 Robertson et al. 01/27/1996 5,598,347 Robertson et a		5,757,358	Osga	05/26/1998
S.754.023 Roston et al. 0.5/19/1998		5,755,577	Gillio	05/26/1998
S,143,115 Pickover et al. 047,81198 S,142,278 Chen et al. 047,11198 S,174,278 Chen et al. 047,11198 S,178,271 Rosenberg et al. 047,11198 S,178,273 Rosenberg et al. 047,11198 S,178,173 Rosenberg et al. 047,11198 S,174,173 Rosenberg et al. 037,11198 S,174,173 Rosenberg et al. 037,11198 S,174,173 Rosenberg et al. 037,11198 S,174,175 Chen et al. 047,11198 S,174,175 Chen et al. 072,41198 Chen		5,755,016	Sinclair et al.	06/16/1998
S,145,115		5,754,023	Roston et al.	05/19/1998
S,142,278		5,745,715		
S.,139,811 Rosenberg et al. O4/14/1998			Chen et al.	
S. 1316.978 Hasser et al. 04/07/1998				
S.134,373 Rosenberg et al. 03/31/1998				
S.713.804 Rosenberg 0.3724/1998				
S.7724.178 Chen et al. O4711/998				
S,7724,106				
S,721,566 Rosenberg et al. 02/24/1998				
S,714,978 Yamanaka et al. 02/03/1998 S,709,219 Chem et al. 01/20/1998 S,709,219 Chem et al. 01/20/1998 S,694,013 Stewart et al. 12/02/1997 S,691,874 Amano 11/25/1997 S,691,747 Amano 11/25/1997 S,691,747 Amano 11/25/1997 S,666,473 Wallace 09/09/1997 S,666,473 Wallace 09/09/1997 S,666,138 Culver 09/09/1997 S,666,138 Culver 09/09/1997 S,656,918 Culver 09/09/1997 S,666,138 Culver 09/09/1997 S,664,2469 Hamaford et al. 07/1997 O6/24/69 Hamaford et al. 07/1997 S,629,594 Jacobus et al. 05/13/1997 S,629,594 Jacobus et al. 05/13/1997 S,629,594 Jacobus et al. 05/13/1997 S,595,437 Robertson et al. 01/21/1997 S,590,032 Jensen et al. 01/21/1996 S,539,834 Tsai 12/1996 S,539,834 Amstrong 12/1996 S,539,834 Amstrong 12/1996 S,538,407 Yamagushi 12/10/1996 S,538,307 Yamagushi 12/10/1996 S,538,307 Yamagushi 12/10/1996 S,538,307 Yamagushi 12/10/1996 S,537,977 Rosenberg et al. 11/16/1996 S,537,377 Rosenberg et al. 11/16/1996 S,537,377 Meassic et al. 08/06/1996 S,538,382 Amstrong 32/1996 S,530,455 Gillilick et al. 00/13/1996 S,547,372 Merchith 08/06/1996 S,547,372 Merchith 08/06/1996 S,547,373 Al. Bacon et al. 04/30/1996 S,547,479 Clark et al. 04/30/1995 S,455,479 Clark et a				
S,709,219 Chen et al. 01/20/1998				
S.694.013 Siewart et al. 12/02/1997				
S,691,898 Rosenberg est al. 11/25/1997				
S,691,147				
S,666,473 Wallace 09/09/1997				
S,666,138 Culver 09/09/1997				
S.555.901 Kurita 08/12/1997	 			
S,643,087	 			
S,642,469	 			
S,629,594 Jacobus et al. O5/13/1997				
S,625,576	 			
S,596,347	 			
5,591,082 Jensen et al. 01/07/1997 5,589,834 Tsai 12/1996 5,589,828 Armstrong 12/1996 5,587,937 Massie et al. 12/24/1996 5,583,407 Yamaguchi 12/10/1996 5,577,981 Jarvik 11/26/1996 5,576,727 Rosenberg et al. 11/19/1996 5,556,887 McCambridge et al. 10/15/1996 5,547,382 Yamasaki et al. 08/20/1996 5,542,672 Merdith 08/20/1996 5,530,455 Gillick et al. 06/25/1996 5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,513,344 Bacon et al. 12/20/1996 5,491,477 Clark et al. 02/13/1996 5,491,477 Clark et al. 02/13/1996 5,466,213 Hogan et al. 11/14/1995 5,466,213 Hogan et al. 11/14/1995 5,451,924 Massimot et al. 09/1995 5,414,337 Schuler 05/1995 5,414,337 Schuler 05/1995				
S_5,89,854 Tsai 12/1996				
5,589,828				
5,587,937 Massie et al. 12/24/1996 5,583,407 Yamaguchi 12/10/1996 5,577,981 Jarvik 11/26/1996 5,576,727 Rosenberg et al. 11/19/1996 5,565,887 McCambridge et al. 10/15/1996 5,547,382 Yamasaki et al. 08/20/1996 5,542,672 Meredith 08/06/1996 5,513,100 Parker et al. 06/25/1996 5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,399,091 Missumoto 03/21/1995 5,399,091 Missumoto 03/21/1995 5,398,665 Jacobus et al. 02/14/1995	 			
5,583,407 Yamaguchi 12/10/1996 5,577,981 Jarvik 11/26/1996 5,576,727 Rosenberg et al. 11/19/1996 5,565,887 McCambridge et al. 10/15/1996 5,547,382 Yamasaki et al. 08/20/1996 5,542,672 Mcredith 08/06/1996 5,530,455 Gillick et al. 06/25/1996 5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,399,091 Missumoto 03/11/1995 5,399,091 Missumoto 03/21/1995 5,396,266 Brimhall 03/07/1995 <td>- </td> <td></td> <td></td> <td></td>	- 			
S,577,981 Jarvik 11/26/1996				
S,576,727 Rosenberg et al. 11/19/1996				
5,565,887 McCambridge et al. 10/15/1996 5,547,382 Yamasaki et al. 08/20/1996 5,542,672 Meredith 08/06/1996 5,530,455 Gillick et al. 06/25/1996 5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,389,865 Jacobus et al. 02/14/1995	 		· · · · · · · · · · · · · · · · · · ·	
5,547,382 Yamasaki et al. 08/20/1996 5,542,672 Meredith 08/06/1996 5,530,455 Gillick et al. 06/25/1996 5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,389,865 Jacobus et al. 02/14/1995	 			
5,542,672 Meredith 08/06/1996 5,530,455 Gillick et al. 06/25/1996 5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,398,665 Brimhall 03/07/1995				
5,530,455 Gillick et al. 06/25/1996 5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 4 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Missumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,389,865 Jacobus et al. 02/14/1995	- - - - - - - - - - 			
5,513,100 Parker et al. 04/30/1996 5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 4,66,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,399,6266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	 			
5,512,919 Araki 04/30/1996 5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/07/1995 5,389,865 Jacobus et al. 02/14/1995				
5,506,605 Paley 04/09/1996 5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	├──┤──			
5,491,477 Clark et al. 02/13/1996 5,473,344 Bacon et al. 12/05/1995 5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/07/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	┝╼╁╼╌			
5,473,344 Bacon et al. 12/05/1995 1,466,213 Hogan et al. 11/14/1995 2,459,382 Jacobus et al. 10/17/1995 3,457,479 Cheng 10/10/1995 4,51,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	 			
5,466,213 Hogan et al. 11/14/1995 5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995				
5,459,382 Jacobus et al. 10/17/1995 5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	 			
5,457,479 Cheng 10/10/1995 5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	 			
5,451,924 Massimino et al. 09/1995 5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995				
5,414,337 Schuler 05/1995 5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	 		Cheng	
5,405,152 Katanics et al. 04/11/1995 5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995				
5,399,091 Mitsumoto 03/21/1995 5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995				
5,398,044 Hill 03/14/1995 5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	 			
5,396,266 Brimhall 03/07/1995 5,389,865 Jacobus et al. 02/14/1995	 			
5,389,865 Jacobus et al. 02/14/1995	├──┃			
	 - - 		Brimhall	03/07/1995
Schnell et al. 01/10/1995	- \ 			
		5,381,080	Schnell et al.	01/10/1995

Examiner	/Vice Wes/	Date	06/25/2006
Signature	/Xiao Wu/	Considered	06/25/2006

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Sheet	3	of	9	Attorney Docket Number	TMMP_046/02LIS	

XW	6.355.140		100000
	5,355,148	Anderson	10/11/1994
\longrightarrow	5,354,162	Burdea et al.	10/11/1994
L	5,341,459	Backes	08/23/1994
	5,334,027	Wherlock	08/2/1994
	5,313,230	Venolia et al.	05/17/1994
	5,309,140	Everett, Jr. et al.	05/3/1994
	5,299,810	Pierce et al.	04/05/1994
	5,296,871	Paley	03/22/1994
	5,286,203	Fuller et al.	02/15/1994
	5,275,565	Moncrief	01/4/1994
	5,275,174	Cook	01/04/1994
	5,271,290	Fischer	12/21/1993
	5,264,768	Gregory et al.	11/23/1993
	5,240,417	Smithson et al.	08/31/1993
	5,235,868	Culver	08/17/1993
	5,223,776	Radke et al.	06/29/1993
	5,220,260	Schuler	06/15/1993
	5,212,473	Louis	05/18/1993
	5,203,563	Loper, III	04/20/1993
	5,197,003	Moncrief et al.	03/23/1993
	5,193,963	McAffee et al.	03/16/1993
	5,189,355	Larkins et al.	02/23/1993
 	5,186,629	Rohen	02/16/1993
 	5,185,561	Good et al.	
- - - - - - - - - - 	5,184,319	Kramer	02/09/1993
	5,146,566	Hollis, Jr. et al.	02/02/1993
			09/08/1992
	5,116,180 5,107,262	Fung et al.	05/26/1992
		Cadoz et al.	04/21/1992
	5,107,080	Rosen	04/21/1992
	5,103,404	McIntosh	04/07/1992
	5,095,303	Clark et al.	03/10/1992
	5,078,152	Bond et al.	01/07/1992
	5,075,517	Ferranti et al.	12/31/1991
	5,044,956	Behensky et al.	09/03/1991
	5,038,089	Szakaly	08/06/1991
	5,035,242	Franklin et al.	07/30/1991
	5,022,407	Horch et al.	06/11/1991
	5,019,761	Draft '	05/28/1991
	5,007,300	Siva	04/16/1991
	5,004,391	Burdea	04/02/1991
	4,983,901	Lehmer	01/08/1991
 	4,961,038	171007711111	10/02/1990
	4,949,119	Moncrief et al.	08/14/1990
	4,934,694	McIntosh McIntosh	06/19/1990
	4,930,770	Baker	06/05/1990
	4,896,554	Culver	01/30/1990
	4,891,764	McIntosh	01/02/1990
	4,868,549	Affinito et al.	09/19/1989
	4,853,874	lwamoto et al.	08/01/1989
	4,839,838	LaBiche et al.	06/13/1989
	4,837,734	lchikawa et al.	06/06/1989
	4,823,634	Culver	04/25/1989
	4,800,721	Cemenska et al.	01/31/1989
V	4,795,296	Jau	01/1989

Examiner		Date	06/25/2006	_
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Sheet	4	of	9	Attorney Docket Number	IMMR-046/02US	

XW	4,794,392	Selinko	12/27/1988
	4,794,384	Jackson	12/27/1988
	4,782,327	Kley et al.	11/01/1988
	4,713,007	Alban	12/15/1987
	4,708,656	de Vries et al.	11/24/1987
	4,706,294	Ouchida	11/10/1987
	4,689,449	Rosen	08/25/1987
	4,604,016	Joyce	08/05/1986
	4,603,284	Perzicy	07/29/1986
	4,599,070	Hladky et al.	. 07/08/1986
	4,581,491	Boothroyd	04/08/1986
	4,560,983	Williams	12/24/1985
	4,513,235	Acklam et al.	04/23/1985
	4,477,043	Repperger	10/16/1984
	4,398,889	Lam et al.	8/16/1983
	4,236,325	Hall et al.	12/02/1980
	4,160,508	Salisbury, Jr.	7/10/1979
	3,923,166	Fletcher et al.	12/02/1975
	3,919,691	Noli	11/11/1975
	3,911,416	Feder	10/07/1975
	3,903,614	Diamond et al.	09/09/1975
	3,902,687	Hightower	09/02/1975
	3,623,064	Kagan	11/23/1971
	3,517,446	Corlyon et al.	06/30/1970
	3,497,668	Hirsch	02/24/1970
	3,220,121	Cutler	11/30/1965
V	3,157,853	Hirsch	11/17/1964

	-			FOREIGN P.	ATENT DOCUMENTS		
Examiner Initials*	Cite	roreign Patent Document			Date of Publication		
initials*	No.'	Office ^l	Number ²	Kind Code ³ (if known)	Name of Patentee or Applicant of Cited Document	of Cited Document MM-DD-YYYY	T ⁴
		EP-	0 626 634	1.2	Yoshiaki ci al.	11/1994	
	1	wo	05/20788			09/02/1005	
*	i	wo	97/20305			06/05/1997	
	— —	wo	97/31333			09/20/1007	
	<u> </u>	EP	0265011	- 1 AI		04/27/1000	
		EP	0607680	Al		07/2/1004	
		wo	02/00550			01/09/1992	
		-wo-	97/20305			06/05/1997	
		₩0	00/21071			. 04/13/2000	-
		WO.	00/03310			01/20/2000	
		wo	96 <i>/</i> 28777			09/19/1996	
		WO	05/22450			11/30/1995	

¹ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

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Finite Office that issued the document, by the two-letter code (wire Standard S1.3).

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Sheet	5	of	9	Attorney Docket Number	IMMR-046/02US

	EP	0873819	Al		04/11/1998	
	EP	0085518	Al		01/01/1003	
	WO	97/21160			06/12/1997	
- -	ED	0.240.086		Stade Variation D. V	01/00/1000	
 	- 40	*** 0204	- 111	T. C.	01/03/1990	
<u></u>	31	114-0201		rano corpolation	01/13/1992	
	J P	-112-105270		Taito Corporation	07/19/1990	
	- JP	117-24147		Sega Corporation	01/2//1995	
	-14	115-192449		Tuito Corporation	99/03/1993	
				1		
				<u> </u>		

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	L ₃
		Minsky et al., "Feeting and Seeing. Issues in Porce Display," ACM 089791-931-9790/00003, pp. 233-242 270.	
		Iwata, Hisse, "Astificial Reality with Force foodbacks: Development of Dusktop Virtual Space with Compact Muster Manipulator," Compact Computer Supplies, Vol. 24, No. 4, Aug. 1990, pp. 165-170	
		Manualsa et al., "Maltimodal Mouse. A Mouse Type Device with Tactile and Force Display," Presenace, Vol. 3, No. 1, Winter 1994, pp. 73-80	
		Hasser, C. et al., "Tactile Feedback with Adaptive Controller for a Force Reflecting Haptic Display," Parts 1 and 2, IEEE 0-7803-3131-1, 1996, pp. 526-533	
		Hasser, C., "Tactite Feedback for a Force-Reflecting Haptic Display," School of Eng., Univ. of Dayton, Dayton, OH, 1995, pp. 1-98	
		Dennation et al., "Vibrotastile Feedback for Industrial Telemanipulators," 6th Annual Symp. On Haptic Interfaces for Virtual Environment and Teleoperator Systems, ASME IMECE, Nov. 1997, pp. 1-7	
		Deporter, Jack et al. "Commercialization of Vibratactile Feedback for Telemanipulation and Virtual Environmente," 1997. Phase I Final Report for ONE Contract M00014-96 C 0325 (not published or published or published or published.)	
		Athinson at al., "Computing With Feeling," Comput. & Graphics, Vol. 2, 1997, pp. 97-183	
		Kilpatrick, "The Use Of A Kinesthetic Supplement in Au Interactive Graphics System," Dept. of Computer Science, Univ. of North Carolina, Chapet Hill, 1976, pp. i-175	
		Wiker et al. "Development of Tactile Mice for Blind Access to Computers: Importance of Stilulation Locus, Object Size, and Vibrotastile Display Resolution," Press of the Human Factors Society 35th August Meeting, 1991	
		Brooks, Jr. et al., "Broject GRODE - Haptic Displays for Scientific Visualization," Computer Graphics, Vol. 24, No. 4, Aug. 1990, pp. 177-186	
		Howe et al., "Tack Performance with a Destroys Telesperated Hand System," Proc. of SPIE, Vol. 1033, Nov. 1992	
		Rocenberg, "Bementual Decign of a Virtual Rigid Surface Contact," Armstong Lab, April 1993, pp. 1-10	
		Recemberg, "Virtual Fixtures as Tools to Enhance Operator Performance in Telepresence Environments," STE Telemanipulator Technology, 1993.	
		Rosenberg, "Virtual Haptic Overlays Fohance Performance in Teleprocence Tacks," Dept. of Mech. Eng., Stanford Univ., 1994	
		Gotow et al. "Percention of Mechanical Properties at the Man Machine Interface," IEEE CH2503 Jan. 1907, pp. 688-689	
		Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Jeyotick," Dept. of Meels. Eng., May 1990	
		Rosenberg "A Force Feedback Programming Primer – for PC Gaming Peripherals Supporting L-Force 2.0 and Direct – X S.O." Immersion Corp. 1002	
		Winey III, "Computer Simulated Visual and Tactile Feedback as an Aid to Manipulator and Vehicle Control." Dent of Mech. Eng., MIT, June 1981	
		Payette et al., "Evaluation of a Force Feedback (Haptic) Computer Pointing Bevice in Zero Gravity, DSC-Vol. 38, Proc. of ASME Dynamics Systems and Control Div., Oct. 1006, pp. 547-553	

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l Exa	ıminer		Date	
1		1901 00 1	Date	06/25/2006
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^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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I m		 INT	CCI OCIDE	Application Number	
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S				First Named Inventor	Erik SHAHOIAN
				Group Art Unit	
				Examiner Name	
Sheet	6	of	_ 9	Attorney Docket Number	IMMR-046/02US

 Ramstein, Combining Papite and Braffle Technologies. Design Issues and Filor Study, "ACM 8-89791-776, pp. 37-44
Recemberg at al., "The Use of Force Feedback to Enhance Graphical User Interface," Proc. SPIE 2653, 1996, pp. 243-248
Rosenberg et al., "Commercially Viable Force Feedback Controller for Individuals with Neuromotor Disabilities," USAF
Schmult at al., "Application Areas for a Force Feedback Joyoticky" DSG Vol. 19, Advances in Rebotics, Mechatronics, and Hantic Interfaces, ASM 1993, op. 47-54
Ten at shy "Manual Resolution of Compliance When Work and Force Cues are Minimized," D3C-Vol. 49, Advances in Robotico, Mechatronico, and Hoptic Interfaces, ASMS 1993, pp. 99-104
Burdes et al., "Distributed Virtual Force Feedback," IEEE Workshop on Force Display in Virtual Environments and its
Fischer et al., "Specification and Design of Input Devices for Toleoperation," IEEE CH2876, Jan. 1990, pp. 540-546-
Kotoku, "A Fredictive Display with Force Feedback and its Application to Remote Manipulation System with Transmission Time Delay," Proc. of IEEE/R8J Int'l Conf. On Intelligent Robots and Bystems, July 1992
Jacobson et al., "High Performance, High Dexterity, Force Reflective Teleoperator II," ANS Topical Mtg. On Robotics
Outh young of al., "Using a Manipulator for Force Display in Molecular Docking," IEEE C12555, 1998, pp. 1824-1829
Henneford at al., "Performance Evaluation of a Sin Anie Generalized Force Reflecting Telesporator," IEEE Trans. On Systems, Man, and Cybernetics, Vol. 21, No. 3, May/June 1991-
Hinota et al., "Development of Surface Display," IEEE 0 7803 1363, 1993, pp. 266-262
Ellis et al. "Design and Evaluation of a High-Performance Prototype Planar Hoptic Interface," DSC Vol. 49, Advences in Robotics, Mechatronics, and Haptic Interfaces, ASME Dec. 1993, pp. 55-64
Millman et al., "Design of a Foar Degree of Freedom Force Reflecting Manipulandum With a Specified Force/Torque Workspass," Proc. IEEE Lin't Conf. On Robotics and Automation, April 1991, pp. 1488-1493
Kelley at al., "MegicMouser Testile and Kinesthetic Feedback in the Human Computer Interface Using an Electromagnetically Actuated Input/Output Device," Dept. of Elect. Eng., Univ. of British Columbia, Oct. 1993
Outh-young of al., "Creating air Illusion of Teel. Control Issues in Force Display," Computer Science Dept., Univ. of North Carolina, Chapel Hill, Sept. 1989, pp. 1-14.
Hannaford et al., "Force Feedback Gursor Control," NAGA Tude Brief, Vol. 19, No. 11, Item #21, Nov. 1989
Dattolo et al., "Pen Dased Force Display for Precision Manipulation in Virtual Environments," IEEE 9-0106-7004, Mar.
Bejons et al., "The Phantom Robots - Predictive Displaye for Teleoperation with Time Belay," IEEE CH2876, Jan. 1990,
Adelstein et al., "A High Performance Two Dogree of Freedom Kinesthetic Interface," MIT, 1992, pp. 108-112-
 Kotoku et al., "Environment Modeling for the Interactive Display (EMID) Used in Telerobetic Systems," IEEE/RSJ Int'l Workshop on Intelligent Robots and Systems, New 1991, pp. 999-1994
-Su et al., "The Virtual Panel Architecture: A39 Sector Francowork," IEEE 9-7803-1363, Jun. 1993, pp. 307-393-
-Yemshits et al., "Tole Virtual Reality of Dynamic Mechanical Model." Proc. of IEEE/RSL Int'l Conf. On Intelligent Robots and Systems, July 1993, pp. 1102-1110.
Bottos et al., "GROPE 1: A Computer Display to the Sense of Feel," Press, IFIP Congress 1971, pp. 759-763
 Adachi et al., "Sensory Evaluation of Virtual Haptic Buch Buttons," Technical Research Center, Suzuki Motor Com- Yokohama, 1994
Adolstoin at al., "Design and Implementation of a Force Reflecting Manipulandum for Manuela Control Research," NASA Ames Research Control Dept. of Mech. Eng., MIT, 1992
Janes et al. "A Demontical Analysis of Stiffness," Experimental Prain Personal, 1999.
Out-young, "Force Display in Molecular Docking," Dept. of Computer Science, Univ. of North Cambina, Chapel Hill,
Yokokohiji et al. "What You Can See is What You Can Feel - Development of a Viguel/Haptic Interface to Virtual Environment " Proc. VR AIS 1996.

Examiner		Date	
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^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	(22 22 33 33 5 3 5 5 5 5 5 5 5 5 5 5 5 5			Examiner Name	
Sheet	7	of	9	Attorney Docket Number	IMMR-046/02US

1 1	Kolley et al., "On the Development of a Force Feedback Mouse and its integration into a graphical user interface, 11/94,	
	Ramstein, "Combining Haptic & Drailler Technologies. Design Issues and Filot Study," 1996, Siggraph pp. 37-44	
L	Su ce al., "The Virtual Panel Architecture. A 3D Gesture Framework," University of Waryland, pp. 387-393	
	Ransicin et al., "The Pantograph. A Large Workspace Haptie Device for a Multimodal Human Computer Interaction," Computer-Human Interaction, CHI 1994, pp. 1-3	
	Munch et al., "uneffigent Control for Hapric Displays," Eurographics '96, Vol. 13, No. 3, 1996, pp. 217-226-	
	Colgate at al., "Implementation of Stiff Virtual Walls in Force Reflecting Interfaces," Northwestern University, IL 1993, -pp. 1-8	
	Rosenberg et al. "Percentual Decomposition of Virtual Haptic Surfaces," Proc. IEEE Symposium on Rosearch Frontiers in Virtual Reality, 1992, pp. 1-8	
	Iwata, Hiroo, "Pan Based Haptic Virtual Environment," IEEE 9-7803-1303-1, 1993, pp. 287-292	
	Baigrie "Flectric Control Loading - A Low Cost, High Performance Alternative," Proceedings of Interservice/Industry Training Systems Conference, pp. 247-254, November 6-8, 1000	_
	Iwata, "Pen based Haptie Virtual Environment," 0 7803 1363 1/93 IEEE, pp. 287 292, 1993	
	Russe, "The Design and Implementation of a Three Degree of Freedom Fame Output layotick," MIT Libraries Archives pp. 1-131, May 1990, archived 8/14/90	
	Brooks & al., "Hand Controllers for Teleoperation - A State of the Art Technology Survey and Evolustion," JPL - Publication 85-11, NASA-CR 175090, N85 28559, pp. 1-84, 03/1/1085	
	Jones et al., "A perceptual analysis of etiffices," ISSN 9914-4819 Springer International (Springer Verlag), Experimental Brain Research, Vol. 79, No. 1, pp. 160-166, 1990	
	Burden et al., "Distributed Virtual Force Feedback, becture Notes for Wedtshop on Force Display in Virtual Environments and its Application to Robotics Teleoperation," 1993 IEEE International Conference on Robotics and Internation, pp. 35-44, 05/02/1993	
	Snow et al., 'Model X Force Reflecting Head Controller," NT Control No. NDO 17851; IDL Case No. 7348, pp. 1.4 with 45 pages of attachments, 06/15/1989	
	Outs Young, "Force Display in Molecular Docking," Doctoral Dissertation, University of North Carolina at Chaper Hill, UMI Order No. 9934744, p. 1-369, 1990	
	Tadroc, "Control System Design for a Three Dogree of Freedom Virtual Environment Simulator Using Motor/Brake Fair Actuators," MIT Archive, pp. 1-98, February 1999, archived 8/13/99	
	Culdwell et al., "Enhanced Tactile Feedback (Tele Taction) Using a Multi-Functional Sensory System," 1850-4729/93, pp. 955-960, 1993-	
	Adeletein et al., "Design and Implementation of a Force Reflecting Menipulandum for Manuel Control research," DSG Vol. 42, Advances in Robotics, pp. 1-12, 1992	
	Getow et al., "Controlled Impedance Test Appearatus for Studying Human Interpretation of Kinesthetic Feedbook," WALL-11:00, pp. 332-337	
	Stanley et al., "Computer Simulation of Interesting Dynamic Mechanical Systems Using Distributed Memory Parallel Brosscoom," DSC Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992.	
	Russe, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC Vol. 42, Advances in Robotics, pp. 63-70, ASME 1992	
	Kontarinis et al. "Display of High-Frequency Tactile Information to Teleoperators," Telemanipulator Technology and Space Teleoperators, Won S. Kim, Editor, Pres. SPIE Vol. 2067, pp. 40-60, Sep. 7-9, 1993	
	Patrick of al. "Design and Testing of A Non-reactive, Fingertip, Tootile Display for Interestion with Remote Environments," Geoperative Intelligent Robotics in Space, Rui J. deligacinedo et al, Editor, Proc. SPIE Vol. 1387, pp. 215-222, 1990.	
	-Adeletein, "A Virtual Environment System For The Study of Human Arm Tremen," Ph.D. Dissertation, Dept. of Moobenieel Engineering, MIT, June 1989, ambited 2/13/90	
	-Bejery, "Sensors, Controls, and Man Machine Interface for Advanced Telesperation," Science, Vol. 208, No. 4460, pp. +327-1935, 1980	-
	Bejory et al., "Generalization of Bilateral Force Reflecting Control of Manipulators," Proceedings Of Fourth CIGH IFTOMM, Sep. 0-12, 1981	-
	MoAffee et al, "Teleopemter Subcyctem/Telembot Demonstrator: Force Reflecting Hand Controller Equipment Manual," JPL 1988, JPL D-6173	-

Examiner Signature	06/25/2006	Date Considered	06/25/2006
Signature	<u> </u>	Considered	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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51	STATEMENT BY APPLICANT			First Named Inventor	Erik SHAHOIAN
	(use as many s	sheets as	necessary)	Group Art Unit	
				Examiner Name	
Sheet	8	of	9	Attorney Docket Number	IMMR-046/02US

	Winsky, Computational Haptics. The Sandpaper System for Synthesizing Texture for a Force Feedback Displays Ph.D. Dissertation, MIT, June 1993, arctived 7/6/93	
	Jacobem et al., "High Performance, Dentrous Telerobetic Manipulator With Force Reflection," Intervention/ROV '91 Conference & Exposition, Hollywood, Florida, May 21-23, 1991	
	Shinnoga, "Finger Force and Touch Feedback Issues in Deuterous Telemanipulation," Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Englanation, Researcher Polytechnic Institute, Sep. 30 Oct. 1, 1992	
	1BM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B; -February 1990	
	Tony at al., "Testile Feedbeek In A Computer Mouse," Proceedings of Fourteenth Annual Northcost Bioongineering Conference, University of New Humpshire, March 10-11, 1988	
	Howe, "A Force Reflecting Telesperated Hand System for the Study of Tactile Sensing in Precision Manipulation," Froceedings of the 1992 IEEE International Conference on Robotics and Automation, Nice, France, May 1992	
	Eberhandt et al., "OMAR A Huptio display for speech perception by deaf and deaf-blind individuals," IEEE Virtual Reality Annual International Symposium, Scattle, WA, Sep. 18-22, 1993	
	Rubinowitz et al., "Multidimensional tactile displays: Identification of vibratory intensity, frequency, and contractor- erse," Journal of The Assestical Society of America, Vol. 82, No. 4, October 1987	
	Bejuzy et al., "Kinesthetic Coupling Between Operator and Romote Manipulator," International Computer Technology Conference, The American Society of Mechanical Engineers, Ban Francisco, CA, August 12-13, 1980	•
	Bejorg et al., "A Lebemtery Breedboard System For Dual Arm Teleoperation," SOAR '90 Workshop, ISC, Houston, TV, July 25 27, 1989	
	Outhyoung et al., "A Lew Cost Force Foodback Joystick and its Use in PC Video Cames," IEEE Transactions on Consumer Electronics, Vol. 41, No. 3, August 1995	_
	Marcus, "Touch Feedback in Surgery," Proceedings of Virtual Reality and Medicine The Culting Edge, Sep. 8-11, 1994	
	Bejory, et al., "Universal Computer Control System (UCCS) For Space Telerobote," CH2412 2/87/0000/0318501.00 1087 IEEE, 1987	
	SCANNELL, "Taking a Joyatish Ride," Computer Currente, Bocton Edition, Vol. 9, No. 11, November 1994	
	"Component Maintenesse Manual With Illustrated Parts List, Council Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages)	
	"Technical Manuel Overhaul Instructions With Parts Breakdown, Seanial Centrel Shaker Part No. S 26502," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).	
	Adeletein, "A Virtual Environment System For The Study of Human Ann Tremor," Ph.D. Dissertation, Dept. of Mechanical Engineering, MIT, June 1989, archived 3/13/90—	
	Bejesy, "Sensors, Controls, and Man Machine Interface for Advanced Teleoperation," Science, Vol. 200, No. 4450, pp. 1327-1333, 1980	
	Beiczy et al. "Generalization of Bilateral Force-Reflecting Control of Manipulators." Proceedings Of Fourth CISM- IETOMM, Sep. 8-12, 1981	-
	McAffee et al., "Teleoporates Subsystem/Telerobet Domonstrator: Force Reflecting Hand Controller Equipment Manual," IPI 1088, JPL D-3172	
	Minsky, "Computational Haptics: The Sandpaper System for Synthesizing Tenture for a Force Feedback Display," Ph.D. Dissertation, MfF, June 1995, archived 7/6/95	
·	Jacobson et al., "High Performance, Dextrous Telerobotic Manipulator With Force Reflection," Intervention/ROY '91 Conference & Expecition, Hollywood, Florida, May 21-23, 1991	_
	Shimogo, "Finger Force and Touch Foodback Issues in Dantesous Telemanipulation," Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Exploration, Reassociacs Polycolaine Institute, Sep. 38-Oct. 1, 1992	
	1BM Technical Disclosure Bulletin, "Mouse Bull Actuating Device With Force and Testile Feedback," Vol. 32, No. 0B, February 1990	
	Tony et al., "Tastile Feedback In A. Computer Mouse," Presendings of Fourteenth Annual Northcast Biconginearing Conference, University of New Hampshire, March 10.11, 1022	
	Howe, "A Force Reflecting Telesperated Hand System for the Study of Testile Sensing in Precision Manipulation." Proceedings of the 1907 IEEE International Conference on Pobotics and Automation, Nice, Empre, May 1902	
	Eberhardt et al., "OMAR A Haptic display for speech perception by deaf and deaf blind individuals," IEEE Vietnal Reality Annual International Sympostum, Scattle, WA, Sep. 18-22, 1993	
	Rabinowitz et al., "Multidimensional tactile displayer Identification of vibratory intensity, frequency, and contractor area," Journal of The Accustical Secrety of America, Vol. 82, No. 4, October 1987	
	Bojesty et al., "Kinesthetie Coupling Between Operator and Romoto Munipulator," International Computer Technology	

Examiner		Date	
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Sheet	9	of	9	Attorney Docket Number	IMMR-046/02US	

Conference, The American Society of Mechanical Engineers, San Francisco, CA, August 12-15, 1900
Bejczy et al. "A Laboratory Breadboard System For Dual Arm Telesperation," SOAR '89 Workshop, 59C, Houston, TX, July 25 27, 1080
Outryoung a al., "A Low-Cost Force Feedback Joystick and Its Use in PC Video Games," IEEE Transactions on Consumer Electronics, Vol. 41, No. 3, August 1996-
Murcus, "Touch Feedback in Surgery," Proceedings of Virtual Reality and Medicine The Cutting Edge, Sep. 2-11, 1904.
Deject, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2+13-3/87/0000/0310501:00 1987- IEEE, 1987
-SCAMMELL, "Taking a Joyetisk Ride," Computer Currents, Section Edition, Vol. 0, No. 11, November 1994.
"Component Maintenance Manual With Bluctrated Parts List, Coaxial Control Shaker Part No. C 25503," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).
"Technical Manual Overhout Instructions With Perts Broakdown, Coaxial Control Shaker Part No. C 25503," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 195837 vI/RE

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Examiner	/**	Date	
	/Xiao Wu/	Date	24/2-1224
Signature	/ *******	Considered	06/25/2006
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Unique citation designation number.
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Substitute for form 1449A/PTO Complete if Known **Application Number** 10/782.939 INFORMATION DISCLOSURE February 23, 2004 Filing Date STATEMENT BY APPLICANT First Named Inventor Erik J. Shahoian Art Unit 2674 (use as many sheets as necessary) Examiner Name Unassigned of 3 Sheet IMMR046/02US **Attorney Docket Number**

		Document Number			
xaminer	Cite No.	Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevan Figures Appear
XW		6,422,941	7/23/2002	Thorner et al.	
		6,219,034	04/17/2001	Elbing et al.	
		6,160,489	12/12/2000	Perry et al.	
_1		6,111,577	8/29/2000	Zilles et al.	
		5,766,016	6/16/1998	Sinclair	
		5,690,582	11/25/1997	Ulrich et al.	
		5,575,761	11/19/1996	Hajianpour	
		5,437,607	8/1/1995	Taylor	
		5,436,622	7/25/1995	Gutman et al.	
		5,283,970	2/8/1994	Algner	
		5,186,695	2/16/1993	Mangseth et al.	
		5,175,459	12/29/1992	Danial et al.	
		5,165,897	11/24/1992	Johnson	
		5,022,384	6/11/1991	Freels	
		4,885,565	12/5/1989	Embach	
_		4,484,191	11/20/1984	Vavra	
		4,464,117	8/7/1984	Foerst	
		4,333,070	6/1/1982	Barnes	
		4,262,549	4/21/1981	Schwellenbach	
$\Delta \mathcal{L}$		4,127,752	11/28/1978	Lowthorp	
_ ▼		2,972,140	2/14/1961	Hirsch	

4				
	Examiner Signature	/Xiao Wu/	Date Considered	06/25/2006

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Substitute for form 144500 10 Complete if Known **Application Number** 10/782,939 INFORMATION DISCLOSURE February 23, 2004 Filing Date STATEMENT BY APPLICANT First Named Inventor Erik J. Shahoian Art Unit 2674 (use as many sheets as necessary) **Examiner Name** Unassigned Sheet of IMMR046/02US Attorney Docket Number

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
		PATRICK, "Design, Construction, and Testing of a Fingerap Tootile Display for Interaction with Virtual and Remote Environments," Macter of Ocioneo Thosis, MIT, Aug. 1990, archived Nov. 6, 1990.	
		CALDER, "Design of A Feres Feedback Touch Introducing Actuator For Telesperator Robot Control," Decholor of Science Triests, MIT, May 1969, archived dance 29, 1986.	
		WIKER, Teletouch Display Development. Phase 1 Report!" Toohnical Report 1930, Naval Ocean Systems Center. Son Diogo, July 1988	
		BLISS, *Optical to Toetile Image Conversion for the Blind,* IEEE Transactions on Mair Machine Systems, Vol. MMS-11, No. 1, March 1079.	
		dOHNSON, "Chape Memory Alloy Tactile Feedback Actuator," Armstrong Acrospace Medical Research Eaboratury,	
		KONTARINIO et al., Tactile Display of Vibratory Information in Teleoperation and Virtual Environments, DRESENCE, 4(4):397-403, Harvard Univ., 1995.	
		AUKSTAKALNIS at al., "Silicon Mireger The Ast and Science of Vistual Reality," ISBN 0-038151-82-7, pp. 120-180, 4802.	
		EBERHARDT et al., "Indusing Dynamic Haptic Perception by The Hand: Gystem Description and Some Results," DSC Vol. 56 1, Dynamic Systems and Control Volume 1, ASME 1904.	
		COBEL et al., "Tactile Seedback Applied to Computer Mice." International Journal of Human-Computer Interaction. Vol. 7, No. 1, pp. 1-24, 1995.	
		PIMENTEL et al., "Virtual Realitys through the new looking glass," 2 nd Edition; McCrow Hill, ISBN 0-07-050167-X, pp. 41.202_1004_	
		Cyberman Technical Specification. Logitech Cyberman SW/FT Supplement to Logitech Mouse Technical Reference and Programming Guido, 4/5/1004.	
		SUNYOUNG at al.: "The Buyelepment of A Law Goot Force Foodback Joyotick and its Use in the Virtual Reality Environment," Respectings of the Third Reality Conference on Computer Graphics and Applications, Reality Craphics '05, Seeul, Kerse, 84-84 August 1995.	
-		KAC7MAREK et at "Tactile Displays." Virtual Environment Technologico, Chep. 0, pp. 340-414.	
		LAKE, *Cybermon from Legitech,* et http://www.ibiblio.org/ComeDytechsageChareriens/cyberman.htmli, 1994.	
	,	MAMARITA et al., Tele-Vintair Reality of Dynamic Mechanical Moder, Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Rebote and Systems, Releigh, NC, July 7-10, 1992	

Examiner Signature	/Xiao Wu/	Date Considered	06/25/2006

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				Application Number	10/782,939	
INFORMATION DISCLOSURE			CLOSURE	Filing Date	February 23, 2004	
STATEMENT BY APPLICANT			PPLICANT	First Named Inventor	Erik J. Shahoian	
				Art Unit	2674	
(use as many sheets as necessary)		Examiner Name	Unassigned			
Sheet	3	of	3	Attorney Docket Number	IMMR046/02US	

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		NGLL, FMon Machine Teetile F-S/D Journal, July/August 1973 Isque.				
	BOSENBERC, "Virtual Firstures: Perceptual Overlays Enhance Operator Performance in Toloprosence Tooks," Ph.D. Dissertation, Stanford Linkwestry, June 1994.					

			
Examiner Signature	/Xiao Wu/	Date Considered	06/25/2006

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Form PTG (Rev. 2-3		U.S. Department of Commerce Patent and Trademark Office				Atty. Docket No. IMMR-0052B		Serial No. 10/782,939		
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(Use several sheets if necessary)					Filed: Februai	Filed: February 23, 2004		Group: 2674		
			ī	J.S. Patent Docum	nents					
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WX	Α	RE34,095	10/13/1992	Padula et al.	et al.					
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